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SEQUENCE LISTING

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The Regents of the University of California

<120> Nucleic Acids That Control Seed and Fruit
Development in Plants

<130> 023070-086120US

<140> 09/177,249

<141> 1998-10-22

<150> US 09/071,838

<151> 1998-05-01

<160> 324

<170> PatentIn Ver. 2.0

<210> 1

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<212> DNA

<213> Arabidopsis sp.

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<222> (43)..(2112)

<223> fertilization-independent endosperm 1 (FIE1) cDNA

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gaa gat gta cca tta tta cca agt gtc aag ctt cca att gtt gag aag	438
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Ala Gly Glu Ala Ser Asp Leu Thr Ser Lys Thr Ile Thr Thr Ala Phe	
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Cys Thr Met Ser Leu Asp Leu Asn Lys Thr Thr Gln Arg His Asn Gln	
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 Cys Lys Asn Met Gln Phe Leu Leu Gln Thr Asn Lys Lys Ile Leu Ile
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aaa aag aat gag tat ctc gga gaa tat act gga gaa ctg atc act cat 1782
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 Asp Glu Ala Asn Glu Arg Gly Arg Ile Glu Asp Arg Ile Gly Ser Ser
 585 590 595

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 65 70 75 80
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 85 90 95
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 100 105 110
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 115 120 125
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 245 250 255
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Ile	Gly	Ser	Ser	Tyr	Leu	Phe	Thr	Leu	Asn	Asp	Gln	Leu	Glu	Ile	Asp		
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Pro Asn Cys Tyr Ala Lys Leu Met Ile Val Arg Gly Asp Gln Arg Ile
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Gly Leu Phe Ala Glu Arg Ala Ile Glu Glu Gly Glu Glu Leu Phe Phe
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agttgttgtt gcatgagaga cttgtgagct tagattagtg tgcgagagtc agacagagag 180

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agg att cag gaa ggg aag aaa cct ttg tat gct gtt gtt ttc aac ttc 327

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Ser Tyr Ala Asp Glu Asp Lys Glu Glu Ser Phe Tyr Thr Val Ser Trp
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Gly Ile Ile Arg Val Ile Asp Val Asn Ser Glu Thr Ile His Lys Ser	
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Gln Leu Lys Glu Asn Ser Pro Gly Glu Gly Ala Ser Asp Val Leu Leu	
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Arg Tyr Pro Val Pro Met Cys Asp Ile Trp Phe Ile Lys Phe Ser Cys	
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 Tyr Val Trp Asp Leu Lys Ser Cys Pro Pro Val Leu Ile Thr Lys Leu
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 Trp Asp Val Ile Thr Lys
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Cys Leu Gly Asp Gly Ala Ile Ser Ala Leu Gln Ser Tyr Ala Asp Glu
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Ile Asp Val Asn Ser Glu Thr Ile His Lys Ser Leu Val Gly His Gly
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 Pro Thr Lys Phe Val Gln Phe Pro Val Phe Thr Ala Ser Ile His Thr
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 245 250 255
 Ser Val Asp Asn Glu Ile Leu Leu Trp Glu Pro Gln Leu Lys Glu Asn
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 Ser Val Ala Ile Gly Asn Gln Glu Gly Lys Val Tyr Val Trp Asp Leu
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<223> fertilization-independent endosperm 3 (FIE3)
 WD40/polycomb gene genomic sequence

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 taatcgaata aaaaaattag aatggaaaga ataaaaaatt atcgggtaca attagaagag 720
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SET/polycomb gene genomic sequence reading frame 1

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SET/polycomb gene genomic sequence reading frame 3

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Val	Trp	Thr	Cys	Phe	Tyr	Asn	Leu	Met	Tyr	Ser	Val	Asp	Gln	Lys	Ile	
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Glu	Lys		Glu	Arg	Glu	Pro	Leu	Trp		Leu		Gln	Asn	Arg	Asn	
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Val Lys Pro Val Val Asp Asn Thr Ile Tyr Gly Val Tyr Val Glu Glu	
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Arg Trp Ser Glu Arg Ala Val Val Ala Val Thr Phe Gly Ile Met Trp	
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Trp Trp Arg Leu Arg Asp Glu Val Glu Ser Leu Val Val Val Val Thr	
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His Tyr Lys Ser Tyr Arg Thr Leu Gln Asn Val Tyr Ile Asp Leu	
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Ser Thr Phe Phe His Trp Phe Thr Lys Pro Ser Cys His Ile Asn Met	
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Cys Asp Thr Ser Asn Lys Gln Leu Tyr Ile Ser His Asn Leu	
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Ile Gly Pro Asn Cys Phe Phe Phe Asn Ile Gln Pro Lys Lys Pro	
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Ala Leu Glu Leu Ser Ser Glu Glu Asp Glu Glu Asp Glu Glu Asp	
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agt acc tcg aag tgg atg ttt cgg aca tat tgg taa caa tat tcg aat	3696
Ser Thr Ser Lys Trp Met Phe Arg Thr Tyr Trp Gln Tyr Ser Asn	
1220 1225 1230	
aaa aac ttc ata cgt cga tca ata act ttc ctg ctt att taa ttt ttg	3744
Lys Asn Phe Ile Arg Arg Ser Ile Thr Phe Leu Leu Ile Phe Leu	
1235 1240 1245	
ttg ttt ttc gtc gtg aga aat gtt tta aat ttt caa atc taa tgt agg	3792
Leu Phe Phe Val Val Arg Asn Val Leu Asn Phe Gln Ile Cys Arg	
1250 1255 1260	
aaa gat aca atg aac tca agc tta aga atg atg gaa ctg ctg gtg agg	3840
Lys Asp Thr Met Asn Ser Ser Leu Arg Met Met Glu Leu Leu Val Arg	
1265 1270 1275 1280	
ctt ctg att tga cat cca aga caa taa cta ctg ctt tcc agg att ttg	3888
Leu Leu Ile His Pro Arg Gln Leu Leu Leu Ser Arg Ile Leu	
1285 1290 1295	
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Leu Ile Asp Val Ile Ala Val Val Ala Trp Leu Ile Phe Leu	
1300 1305 1310	
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Phe Phe Ser His Lys Lys Gly Arg Ser Tyr Met Phe Leu Phe	
1315 1320 1325	
tat ttt atc att tgt ttt aca gat att cga ttg tca tat gca tga gaa	4032
Tyr Phe Ile Ile Cys Phe Thr Asp Ile Arg Leu Ser Tyr Ala Glu	
1330 1335 1340	
gta tga gcc cga gtc tag atc cgt aag cat taa att cat tta aat tat	4080
Val Ala Arg Val Ile Arg Lys His Ile His Leu Asn Tyr	
1345 1350 1355 1360	
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Phe Val Ser Phe Thr Thr Leu Ile Tyr Lys Val Lys Leu Thr	
1365 1370 1375	

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Leu Asp Cys Phe Gly Leu Ser Glu Arg Arg Gln Ile Phe Val	
1380 1385 1390	
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Gly Arg Thr Thr Met Gln Ala Leu Leu Pro Gln Gly Leu	
1395 1400 1405	
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Tyr Leu Ser Pro Ser Leu Ser Gln Phe Phe Cys Leu Phe Leu Asn Tyr	
1410 1415 1420	
gtt tat tag tta ctg gtt taa tat taa ata ggt gag gag tgt gac aga	4320
Val Tyr Leu Leu Val Tyr Ile Gly Glu Glu Cys Asp Arg	
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agc tga tca tgt gat gga taa tga taa ctc tat atc aaa caa gat tgt	4368
Ser Ser Cys Asp Gly Leu Tyr Ile Lys Gln Asp Cys	
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Gly Leu Arg Ser Lys Gln His Tyr Val Asp Ala Cys Arg Glu Gly Ser	
1460 1465 1470	
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Leu Leu Glu Arg Asn Asp Ile Trp Glu Lys Gln Val Lys Lys	
1475 1480 1485	
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Lys Ile Cys Ile Asn Ile Tyr Thr Tyr Thr Val Phe Leu Asp	
1490 1495 1500	
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Tyr Ala Gly Ser Gln Leu Cys Cys Ile Lys His Thr Ser Gly Ala	
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Asp Val Pro Arg Asp Leu Gln Leu His Ala Arg Thr Arg Ser Met	
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Tyr Tyr Val Ile Arg Pro Gln Asn Tyr Thr Lys Thr Gln Ser Gly	
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Thr Leu Thr Tyr Val Val Ile Ile Leu Met Thr Cys Met Leu Lys Thr	
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His Glu Val Ser Tyr Met Cys Trp Phe Tyr His Arg Leu Pro Lys	
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Lys Tyr Leu Glu Lys Val Val Gly Arg Ser Ala Lys Asn Arg Asp Ser	
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Glu Asn Met Leu Val Ile Arg Leu Leu Arg Lys Gln Leu Val Glu	
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Lys Leu Ser Phe Ile Ser Thr Thr His His Ala Leu Ala Ser Gln Asn	
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Val Asp Ser Asn Ala Leu Val Leu Thr Lys Ile Ala Ala Arg Asn	
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Ile Ala Gly Met Ser Phe Asn Phe Ser Ala Gly Arg Ser Met Arg	
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Phe Asn Leu Asn Met Ser Leu Tyr Phe Leu Phe Arg Cys Ser Lys Asp	
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Cys Asn Asn Arg Phe Gly Gly Cys Asn Cys Ala Ile Gly Gln Cys Thr	
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Asn Arg Gln Cys Pro Cys Phe Ala Ala Asn Arg Glu Cys Asp Pro Asp	
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ctt tgt cgg agt tgt cct ctt agg taa cac ttt cac ttc aat atc tct	5184
Leu Cys Arg Ser Cys Pro Leu Arg His Phe His Phe Asn Ile Ser	
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Leu Tyr Lys Phe Tyr Asn Gln Ser Asn Ser Asn Gln Lys Ser Tyr Lys	
1730 1735 1740	
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Lys Asn Phe Ile Tyr Ser Cys Gly Asp Gly Thr Leu Gly Glu Thr Pro	
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Val Gln Ile Gln Cys Lys Asn Met Gln Phe Leu Leu Gln Thr Asn Lys	
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Lys Val Ile Asn Val Lys Ser Val Pro Lys Ile Asn Leu Tyr	
1780 1785 1790	
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Glu Arg His Leu Thr Ile Ile Ser Arg Ile Leu Leu Asp Ser His Trp	
1795 1800 1805	
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Lys Val Cys Ser Trp Met Gly Cys Ile Tyr Met Gly Lys Gln Ser	
1810 1815 1820	

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Cys Lys Tyr Lys Asn Lys Phe Asn Ser Tyr Trp Cys Ile His Asn Thr	
1825 1830 1835 1840	
ttt ttt ttt tta ata atg ttt tat act tta gac cat taa ata tat tgt	5568
Phe Phe Phe Leu Ile Met Phe Tyr Thr Leu Asp His Ile Tyr Cys	
1845 1850 1855	
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Val Ile Trp Phe Asp Pro Ser Gly Leu Ser Lys Glu Val Ser	
1860 1865 1870	
cgg aga ata tac tgg aga act gat cac tca tga tga agc taa tga gcg	5664
Arg Arg Ile Tyr Trp Arg Thr Asp His Ser Ser Ala	
1875 1880 1885	
tgg gag aat aga aga tcg gat tgg ttc ttc cta cct ctt tac ctt gaa	5712
Trp Glu Asn Arg Arg Ser Asp Trp Phe Phe Leu Pro Leu Tyr Leu Glu	
1890 1895 1900	
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Ser Gly Asn Phe Arg Ile Ile Leu Lys Arg Phe Asn His Ser	
1905 1910 1915 1920	
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Arg Val Thr His Leu Phe Glu Ser Lys His Leu Phe Tyr Ser Ser	
1925 1930 1935	
aaa tcg atg ctc gcc gta aag gaa acg agt tca aat ttc tca atc act	5856
Lys Ser Met Leu Ala Val Lys Glu Thr Ser Ser Asn Phe Ser Ile Thr	
1940 1945 1950	
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Gln Gln Asp Leu Thr Ala Thr Pro Arg Tyr Ala Val Ile Leu Tyr	
1955 1960 1965	
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Leu Glu Gln Ile Leu Thr Leu Tyr Lys Gln Lys Tyr Leu Cys Phe	
1970 1975 1980	
ctt tag tta aat cgt gta tca act tta ctc gtc gtt gat tgg ttt tca	6000
Leu Leu Asn Arg Val Ser Thr Leu Leu Val Val Asp Trp Phe Ser	
1985 1990 1995 2000	
tat tga aga tat tcc aag aaa ctc aaa ctc att tta aat gat ttt ttc	6048
Tyr Arg Tyr Ser Lys Lys Leu Lys Leu Ile Leu Asn Asp Phe Phe	
2005 2010 2015	
ttg tcg aga aaa ttt agg tta cga aaa ttt atg gtt tcg tgt gca gtt	6096
Leu Ser Arg Lys Phe Arg Leu Arg Lys Phe Met Val Ser Cys Ala Val	
2020 2025 2030	
gat gat tgt gag agg aga tca gag gat tgg tct att tgc gga gag agc	6144
Asp Asp Cys Glu Arg Arg Ser Glu Asp Trp Ser Ile Cys Gly Glu Ser	
2035 2040 2045	

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Asn Arg Arg Arg Gly Ala Phe Leu Arg Leu Leu Leu Trp Thr Arg	
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Thr Cys Gly Leu Val Ala Trp Ser Arg Thr Lys Asp Trp Cys Phe	
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Lys Val Gly Ser Pro Ser Ser Ser Leu Val Phe Asp Leu Arg	
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Arg Ser Ser Asn Ser Ser Ser Pro Phe Phe Met Leu Trp Tyr Ile Asn	
2100 2105 2110	
taa taa tgt aat gct att ttg tgt tac taa acc aaa act taa gtt tct	6384
Cys Asn Ala Ile Leu Cys Tyr Thr Lys Thr Val Ser	
2115 2120 2125	
gtt tta ttt gtt tta ggg tgt ttt gtt tgt atc ata tgt gtc tta act	6432
Val Leu Phe Val Leu Gly Cys Phe Val Cys Ile Ile Cys Val Leu Thr	
2130 2135 2140	
ttc aaa gtt ttc ttt ttg tat ttc aat tta aaa aca atg ttt atg ttg	6480
Phe Lys Val Phe Phe Leu Tyr Phe Asn Leu Lys Thr Met Phe Met Leu	
2145 2150 2155 2160	
tta gtt tgc ata gac ctt tgg aaa aaa aaa gct ttg cac aac ttt aca	6528
Leu Val Cys Ile Asp Leu Trp Lys Lys Lys Ala Leu His Asn Phe Thr	
2165 2170 2175	
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Phe Ile Ser Ser Phe Ser Glu Lys Ser His Asn Thr Ser Leu Trp	
2180 2185 2190	
tac gta atg tac aaa aat gtc aaa ata atg ggt ttt atc att aaa aaa	6624
Tyr Val Met Tyr Lys Asn Val Lys Ile Met Gly Phe Ile Ile Lys Lys	
2195 2200 2205	
aaa tat tgg tta tga atg aag tat agt tag aat ttt agg tat tag ctc	6672
Lys Tyr Trp Leu Met Lys Tyr Ser Asn Phe Arg Tyr Leu	
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Val Trp Phe Asn Val Phe Arg Asp Leu Ile Leu Ser Ile Glu	
2225 2230 2235 2240	
taa tac atg gaa gaa tca tca aca aag tgg ctg tag ctt acg aaa ggt	6768
Tyr Met Glu Glu Ser Ser Thr Lys Trp Leu Leu Thr Lys Gly	
2245 2250 2255	
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Phe Thr Leu Met Ile Cys Ile Cys Ile His Leu Val Ser	
2260 2265 2270	

aaa caa ata aaa aca aaa aaa aag aaa aaa gct ctt taa aat ccg aaa 6864
 Lys Gln Ile Lys Thr Lys Lys Lys Lys Lys Ala Leu Asn Pro Lys
 2275 2280 2285

gta act att ttc aaa aaa tct aaa tta taa act taa atg ttt gga atc 6912
 Val Thr Ile Phe Lys Lys Ser Lys Leu Thr Met Phe Gly Ile
 2290 2295 2300

gcg aac gac tat tgc taa ata taa atg cta aat ata cat gaa gat gtg 6960
 Ala Asn Asp Tyr Cys Ile Met Leu Asn Ile His Glu Asp Val
 2305 2310 2315 2320

aaa aac atg ttg gat ttg tgg aat cgt taa tga cca cgg tta aat ggc 7008
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Glu His Glu Glu Thr Gln Lys Asn Thr Arg Asn Ser Trp Ser Leu Ile
 35 40 45

Arg Pro Phe Gln Met Ile Ser Ile Ser Phe Leu Ser Leu Leu Leu Pro
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Leu Ser Phe Leu Phe Leu Ser Arg Leu Ser Leu Tyr Thr Ser Ser Thr
 65 70 75 80

Pro Val Thr Val Ser Gly Val Ser Ser Val Ile His Gln Ala Asp Val
 85 90 95

Gly Val Leu Tyr Thr Ile Leu Phe Leu Ile Ile Val Phe Thr Leu Ile
 100 105 110

His Ser Leu Ser Gly Lys Pro Glu Cys Ser Val Leu His Ser His Leu
 115 120 125

Tyr Ile Cys Trp Ile Val Leu Phe Ile Ala Gln Ala Cys Ala Phe Gly
 130 135 140

Ile Lys Arg Thr Met Ser Thr Thr Met Ser Ile Asn Pro Asp Lys Asn
 145 150 155 160

Leu Phe Leu Ala Thr His Glu Arg Trp Met Leu Val Arg Val Leu Phe
 165 170 175

Phe Leu Gly Leu His Glu Val Met Leu Met Trp Phe Arg Val Val Val
 180 185 190

Lys Pro Val Val Asp Asn Thr Ile Tyr Gly Val Tyr Val Glu Glu Arg
 195 200 205

Trp Ser Glu Arg Ala Val Val Ala Val Thr Phe Gly Ile Met Trp Trp
 210 215 220

Trp Arg Leu Arg Asp Glu Val Glu Ser Leu Val Val Val Val Thr Ala
 225 230 235 240

Asp Arg Leu Asn Leu Pro Ile Arg Leu Glu Gly Leu Asn Phe Val Asn
 245 250 255

Trp Cys Met Tyr Tyr Ile Cys Val Gly Ile Gly Leu Met Lys Ile Phe
 260 265 270

Lys Gly Phe Leu Asp Phe Val Asn Thr Leu Thr Leu Ser Ile Lys Arg
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Phe His Tyr Ile
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Phe Phe Val Ser Tyr
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 1 5 10

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<400> 56
 His Cys Ser Ser Gln Leu Met Ala Glu Ser Asp Ser Val Ile Gly Lys
 1 5 10 15
 Arg Gln Ile Tyr Tyr Leu Asn Gly Glu Ala Leu Glu Leu Ser Ser Glu
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 Glu Asp Glu Glu Asp Glu Glu Glu Asp Glu Glu Glu Ile Lys Lys Glu
 35 40 45
 Lys Cys Glu Phe Ser Glu Asp Val Asp Arg Phe Ile Trp Leu Val Phe
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 Ala Leu His Met Phe Leu Ile Ile Asn Leu
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<400> 57
 Ser Ile Phe Asn Lys Leu Leu Lys Lys Phe Ser Gly Arg Leu Gly Arg
 1 5 10 15
 Thr Met Val Trp Met Ile Trp Ser Cys Gly Val Leu Ser Pro Ser Thr
 20 25 30
 Ser Lys Trp Met Phe Arg Thr Tyr Trp
 35 40

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 Gln Tyr Ser Asn Lys Asn Phe Ile Arg Arg Ser Ile Thr Phe Leu Leu
 1 5 10 15
 Ile

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<400> 59

Phe Leu Leu Phe Phe Val Val Arg Asn Val Leu Asn Phe Gln Ile
 1 5 10 15

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<400> 60

Cys Arg Lys Asp Thr Met Asn Ser Ser Leu Arg Met Met Glu Leu Leu
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Val Arg Leu Leu Ile
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His Pro Arg Gln
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<211> 17

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<400> 62

Leu Leu Leu Ser Arg Ile Leu Leu Ile Asp Val Ile Ala Val Val Ala
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Trp

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<400> 63

Ile Phe Leu Phe
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<400> 64

Phe Ser His Lys Lys Gly Arg
 1 5

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Ser Tyr Met Phe Leu Phe Tyr Phe Ile Ile Cys Phe Thr Asp Ile Arg
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Leu Ser Tyr Ala
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<400> 66

Ile Arg Lys His
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<210> 67

<211> 17

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<400> 67

Ile His Leu Asn Tyr Phe Val Ser Phe Thr Thr Leu Ile Tyr Lys Val
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Lys

<210> 68

<211> 12

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<400> 68

Leu Asp Cys Phe Gly Leu Ser Glu Arg Arg Gln Ile
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<400> 69

Thr Thr Met Gln

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Phe Cys Leu Phe Leu Asn Tyr Val Tyr

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Ile Gly Glu Glu Cys Asp Arg Ser

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<400> 72

Ser Cys Asp Gly

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<211> 28

<212> PRT

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<400> 73

Leu Tyr Ile Lys Gln Asp Cys Gly Leu Arg Ser Lys Gln His Tyr Val

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Asp Ala Cys Arg Glu Gly Ser Leu Leu Glu Arg Asn

20

25

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Asp Ile Trp Glu Lys Gln Val Lys Lys
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<210> 75

<211> 18

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Cys Ile Asn Ile Tyr Thr Tyr Thr Val Phe Leu Asp Tyr Ala Gly Ser
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Gln Leu

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<400> 76

Cys Cys Ile Lys His Thr Ser Gly Ala
 1 5

<210> 77

<211> 21

<212> PRT

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<400> 77

Asp Val Pro Arg Asp Leu Gln Leu His Ala Arg Thr Arg Ser Met Tyr
 1 5 10 15

Tyr Val Ile Arg Pro
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<210> 78

<211> 32

<212> PRT

<213> Arabidopsis sp.

<400> 78

Gln Asn Tyr Thr Lys Thr Gln Ser Gly Thr Leu Thr Tyr Val Val Ile
 1 5 10 15

Ile Leu Met Thr Cys Met Leu Lys Thr His Glu Val Ser Tyr Met Cys
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<211> 33

<212> PRT

<213> Arabidopsis sp.

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Trp Phe Tyr His Arg Leu Pro Lys Lys Tyr Leu Glu Lys Val Val Gly
 1 5 10 15

Arg Ser Ala Lys Asn Arg Asp Ser Glu Asn Met Leu Val Ile Arg Leu
 20 25 30

Leu

<210> 80

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<400> 80

Arg Lys Gln Leu Val Glu Lys Leu Ser Phe Ile Ser Thr Thr His His
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Ala Leu Ala Ser Gln Asn Val Asp Ser Asn Ala Leu Val
 20 25

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Leu Thr Lys Ile Ala Ala Arg Asn Ile Ala Gly Met Ser Phe Asn Phe
 1 5 10 15

Ser

<210> 82

<211> 62

<212> PRT

<213> Arabidopsis sp.

<400> 82

Ala Gly Arg Ser Met Arg Phe Asn Leu Asn Met Ser Leu Tyr Phe Leu
 1 5 10 15

Phe Arg Cys Ser Lys Asp Cys Asn Asn Arg Phe Gly Gly Cys Asn Cys
 20 25 30

Ala Ile Gly Gln Cys Thr Asn Arg Gln Cys Pro Cys Phe Ala Ala Asn
 35 40 45

Arg Glu Cys Asp Pro Asp Leu Cys Arg Ser Cys Pro Leu Arg
 50 55 60

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 <211> 66
 <212> PRT
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<400> 83
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 1 5 10 15
 Ser Asn Gln Lys Ser Tyr Lys Lys Asn Phe Ile Tyr Ser Cys Gly Asp
 20 25 30
 Gly Thr Leu Gly Glu Thr Pro Val Gln Ile Gln Cys Lys Asn Met Gln
 35 40 45
 Phe Leu Leu Gln Thr Asn Lys Lys Val Ile Asn Val Lys Ser Val Pro
 50 55 60
 Lys Ile
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<400> 84
 Leu Tyr Glu Arg His Leu Thr Ile Ile Ser Arg Ile Leu Leu Asp Ser
 1 5 10 15
 His Trp Lys Val
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<210> 85
 <211> 41
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<400> 85
 Cys Ser Trp Met Gly Cys Ile Tyr Met Gly Lys Gln Ser Cys Lys Tyr
 1 5 10 15
 Lys Asn Lys Phe Asn Ser Tyr Trp Cys Ile His Asn Thr Phe Phe Phe
 20 25 30
 Leu Ile Met Phe Tyr Thr Leu Asp His
 35 40

<210> 86
 <211> 13
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<400> 86

Ile Tyr Cys Val Ile Trp Phe Asp Pro Ser Gly Leu Ser
 1 5 10

<210> 87

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<400> 87

Val Ser Arg Arg Ile Tyr Trp Arg Thr Asp His Ser
 1 5 10

<210> 88

<211> 17

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Ala Trp Glu Asn Arg Arg Ser Asp Trp Phe Phe Leu Pro Leu Tyr Leu
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Glu

<210> 89

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<400> 89

Ser Gly Asn Phe Arg Ile Ile Leu Lys
 1 5

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Arg Phe Asn His Ser Arg Val Thr His Leu Phe Glu Ser Lys
 1 5 10

<210> 91

<211> 32

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<400> 91

His Leu Phe Tyr Ser Ser Lys Ser Met Leu Ala Val Lys Glu Thr Ser
 1 5 10 15

Ser Asn Phe Ser Ile Thr Gln Gln Asp Leu Thr Ala Thr Pro Arg Tyr
 20 25 30

<210> 92

<211> 19

<212> PRT

<213> Arabidopsis sp.

<400> 92

Ala Val Ile Leu Tyr Leu Glu Gln Ile Leu Thr Leu Tyr Lys Gln Lys
 1 5 10 15

Tyr Leu Cys

<210> 93

<211> 15

<212> PRT

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Leu Asn Arg Val Ser Thr Leu Leu Val Val Asp Trp Phe Ser Tyr
 1 5 10 15

<210> 94

<211> 50

<212> PRT

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<400> 94

Arg Tyr Ser Lys Lys Leu Lys Leu Ile Leu Asn Asp Phe Phe Leu Ser
 1 5 10 15

Arg Lys Phe Arg Leu Arg Lys Phe Met Val Ser Cys Ala Val Asp Asp
 20 25 30

Cys Glu Arg Arg Ser Glu Asp Trp Ser Ile Cys Gly Glu Ser Asn Arg
 35 40 45

Arg Arg
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<210> 95

<211> 21

<212> PRT

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<400> 95

Gly Ala Phe Leu Arg Leu Leu Leu Trp Thr Arg Thr Cys Gly Leu Val
 1 5 10 15

Ala Trp Ser Arg Thr
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<400> 96
 Lys Asp Trp Cys Phe
 1 5

<210> 97
 <211> 28
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<400> 97
 Gly Ser Pro Ser Ser Ser Leu Val Phe Asp Leu Arg Arg Ser Ser Asn
 1 5 10 15

Ser Ser Ser Pro Phe Phe Met Leu Trp Tyr Ile Asn
 20 25

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 Cys Asn Ala Ile Leu Cys Tyr
 1 5

<210> 99
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<400> 99
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 1 5 10 15

Leu Thr Phe Lys Val Phe Phe Leu Tyr Phe Asn Leu Lys Thr Met Phe
 20 25 30

Met Leu Leu Val Cys Ile Asp Leu Trp Lys Lys Lys Ala Leu His Asn
 35 40 45

Phe Thr Phe Ile
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<210> 100
 <211> 33
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<400> 100

Ser Ser Phe Ser Glu Lys Ser His Asn Thr Ser Leu Trp Tyr Val Met
 1 5 10 15

Tyr Lys Asn Val Lys Ile Met Gly Phe Ile Ile Lys Lys Lys Tyr Trp
 20 25 30

Leu

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<400> 101

Met Lys Tyr Ser
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Asn Phe Arg Tyr
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<400> 103

Leu Val Trp Phe
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<211> 8

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<400> 104

Asn Val Phe Arg Asp Leu Ile Leu
 1 5

<210> 105

<211> 10

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<400> 105

Tyr Met Glu Glu Ser Ser Thr Lys Trp Leu
1 5 10

<210> 106

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<400> 106

Leu Thr Lys Gly Phe Thr Leu Met
1 5

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<211> 16

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<400> 107

His Leu Val Ser Lys Gln Ile Lys Thr Lys Lys Lys Lys Lys Ala Leu
1 5 10 15

<210> 108

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<400> 108

Asn Pro Lys Val Thr Ile Phe Lys Lys Ser Lys Leu
1 5 10

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<400> 109

Met Phe Gly Ile Ala Asn Asp Tyr Cys
1 5

<210> 110

<211> 17

<212> PRT

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Met Leu Asn Ile His Glu Asp Val Lys Asn Met Leu Asp Leu Trp Asn
1 5 10 15

Arg

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<400> 111
 Pro Arg Leu Asn Gly Gly Ile
 1 5

<210> 112
 <211> 38
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<400> 112
 Asp Pro Leu Phe Leu Lys Ile Lys Phe Phe His Ile Tyr Tyr Leu Phe
 1 5 10 15

Gln Arg Lys Lys Lys His Thr Thr Ile Ile His Leu Pro Ala Val Phe
 20 25 30

Ile Gly Lys Pro Ile Phe
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<210> 113
 <211> 16
 <212> PRT
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<400> 113
 Asn Trp Trp Ala Phe His Tyr His Lys Phe Gly His Val Phe Ile Ile
 1 5 10 15

<210> 114
 <211> 33
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<400> 114
 Arg Asn Lys Lys Gly Asn Leu Cys Gly Asp Cys Asn Lys Thr Glu Ile
 1 5 10 15

Ile Ile Leu Asn His Ser Lys Arg Arg Lys Asp Gln Thr Phe Val Ala
 20 25 30

Arg

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 <211> 59
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<400> 115

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His Pro Leu Phe Leu His Ile Gln Glu Thr Val Ser Ser His Phe Leu
 20 25 30

Ser Ser Ser Gln Cys Phe Asn Leu Cys Glu Leu Arg Trp Asn Met Lys
 35 40 45

Lys His Lys Arg Thr Gln Glu Thr Ala Gly Pro
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Phe Asp His Phe Lys
 1 5

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<400> 117

Ser Pro Leu Ala Phe Leu Ala Ser Ser Ser Leu Tyr Leu Ser Ser Phe
 1 5 10 15

Phe His Val Ser Leu Ser Ile Pro Pro Gln Leu Arg Ser Pro Ser Pro
 20 25 30

Ala Phe Pro Leu Leu Phe Thr Arg Gln Met Ser Glu Ser Tyr Thr Arg
 35 40 45

Ser Cys Phe Ser Ser Ser Ser Ser Leu
 50 55

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<211> 37

<212> PRT

<213> Arabidopsis sp.

<400> 118

Ser Thr Val Ser Gln Glu Asn Gln Asn Ala Leu Phe Ser Ile Pro Ile
 1 5 10 15

Ser Thr Ser Ala Gly Ser Phe Ser Ser Ser Pro Lys Leu Val Pro Leu
 20 25 30

Gly Ser Lys Glu Pro
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<400> 119
 Ala Arg Pro Cys Leu
 1 5

<210> 120
 <211> 27
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 Ile Gln Thr Lys Thr Cys Phe Leu Arg His Met Lys Asp Gly Cys Trp
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Leu Gly Phe Cys Ser Phe Trp Gly Tyr Thr Lys
 20 25

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 <211> 31
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<400> 121
 Cys Gly Leu Glu Ser Trp Leu Ser Leu Trp Leu Thr Thr Leu Tyr Met
 1 5 10 15

Gly Ser Thr Trp Arg Arg Gly Gly Pro Arg Glu Pro Leu Trp Gln
 20 25 30

<210> 122
 <211> 5
 <212> PRT
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<400> 122
 Cys Gly Gly Gly Gly
 1 5

<210> 123
 <211> 23
 <212> PRT
 <213> Arabidopsis sp.

<400> 123
 Lys Val Leu Trp Trp Trp Leu Arg Arg Ile Asp Leu Thr Ser Pro Phe
 1 5 10 15

Val Trp Arg Val Ser Ile Leu
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 Thr Gly Val Cys Ile Thr Ser Val Leu Glu Leu Val
 1 5 10

<210> 125
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 <212> PRT
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<400> 125
 Arg Ser Ser Lys Gly Phe Trp Ile Leu
 1 5

<210> 126
 <211> 36
 <212> PRT
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<400> 126
 Ala Leu Arg Gly Arg Glu Lys Ala Val Asn His Val Phe Leu Met Ile
 1 5 10 15
 Cys Val Met Met Ile Met Cys Lys Ile Phe Asp Ile Leu Tyr Ser Ser
 20 25 30

Leu Glu Cys Phe
 35

<210> 127
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<400> 127
 Asp Phe Phe Ile Phe Ile Phe Tyr Phe Leu Leu Gly Ile
 1 5 10

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 <211> 7
 <212> PRT
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<400> 128
 Pro Val Tyr Met Ser Gln Lys
 1 5

<210> 129
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<400> 129
 Asn Ile Arg Lys Gln Lys Tyr Phe Ile
 1 5

<210> 130
 <211> 14
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<400> 130
 Pro Leu Asn Ile Asn Leu Ser Leu Phe Ile Ile Ile Phe Leu
 1 5 10

<210> 131
 <211> 10
 <212> PRT
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<400> 131
 His Thr Leu Phe Lys Lys Asn Leu Glu Ile
 1 5 10

<210> 132
 <211> 8
 <212> PRT
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<400> 132
 Ile Val Lys Asn Ile Gly Phe Thr
 1 5

<210> 133
 <211> 8
 <212> PRT
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<400> 133
 Met Arg Ile Ile Lys Phe Thr Asn
 1 5

<210> 134
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<400> 134

Pro Tyr Ile Tyr Phe
1 5

<210> 135

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Arg Phe Lys Leu Ile Leu Phe Leu Pro Tyr Met His Asn Ile
1 5 10

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<211> 39

<212> PRT

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Leu Gly Met Asn Thr Asn Ile Tyr Asn Asp Ile Asn Ile Ser Leu Thr
1 5 10 15Gly His Ser Lys Met Tyr Ile Leu Ile Tyr Gln His Phe Phe Ile Gly
20 25 30Leu Leu Asn Gln Val Val Thr
35

<210> 137

<211> 35

<212> PRT

<213> Arabidopsis sp.

<400> 137

Val Asn Ala Phe Phe Phe Ile Ile Leu Tyr Met Asn Leu Asn Leu Ser
1 5 10 15Cys Gln Thr Ser Ser Lys Pro Asn Ile Tyr Ile His Ile Val Leu Tyr
20 25 30Phe Glu Asn
35

<210> 138

<211> 11

<212> PRT

<213> Arabidopsis sp.

<400> 138

Asn Phe Leu Lys Phe Pro Ile Leu Phe Ser Phe
1 5 10

<210> 139
 <211> 55
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 Ser Lys Gln Val Gln Ile Arg Phe Phe Gln Ile Ile Ile Phe Leu Asn
 1 5 10 15
 Lys Val Phe Tyr Lys Lys Lys Ser Thr Ser Tyr Leu Lys Asn Pro Leu
 20 25 30
 His Tyr Pro Phe His Gln His Gln Arg Arg Arg Glu Lys Lys Lys Arg
 35 40 45
 Arg Val Val Asn Gly Glu Gly
 50 55

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<400> 140
 Phe His Ser Lys His Ile
 1 5

<210> 141
 <211> 15
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<400> 141
 Val Met Lys Ser Ile Tyr Phe Asn Cys Val Phe Met Ile Asp Gln
 1 5 10 15

<210> 142
 <211> 19
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<400> 142
 His Leu Gly Leu Asn Phe Leu Val Ile Tyr Tyr Val Ile Arg Pro Met
 1 5 10 15

His Asp Pro

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 <212> PRT
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<400> 143
Asn Phe Tyr Phe
1

<210> 144
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<400> 144
Ile Cys Leu Gly Lys Pro
1 5

<210> 145
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<400> 145
Gly Phe Ala Thr Arg Thr Lys Ser Asp Lys Arg Ala Asn Arg Lys Gly
1 5 10 15
Glu Ile Ser Ala Tyr Gln Gly Lys Arg His Leu Val Ala Leu Ile Phe
20 25 30
Tyr Ser Leu Leu Tyr Val Phe Leu Lys Ile Lys Glu Arg Arg Gly Leu
35 40 45
Asn Leu Ile Thr Ile Arg Phe Gln Arg Asp Val Lys Ile His Leu Ile
50 55 60
Asn Ser Tyr Thr Leu Val Ile Ile Phe Lys Thr Lys Lys Arg Asn Phe
65 70 75 80
Gln Thr Phe Lys Leu Lys Thr Glu Phe Arg Lys Cys Gln Arg Ile Asp
85 90 95
Asn Asp Ile Gln Ile Cys Arg Val Ser Lys Thr
100 105

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Asn Lys Lys Ile Ile Asn Ile Phe Ile Ile
1 5 10

<210> 147
<211> 30
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Ser Trp Asn Leu Gly Tyr Lys Ile Lys Leu Lys Ile Ile Val Asp Phe
 1 5 10 15

Phe Val Phe Val Lys Gln Asn Ser Asn Thr Ile Cys Phe Phe
 20 25 30

<210> 148

<211> 5

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<400> 148

Tyr Lys Glu Thr Lys
 1 5

<210> 149

<211> 15

<212> PRT

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<400> 149

Val Gln Ile Val Phe Phe Leu Thr Phe Ser Gln Lys Ser Gln Asp
 1 5 10 15

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<211> 38

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Cys Ile Tyr Gln Glu Ile Glu Ile Lys Thr Phe Val Phe Lys Tyr Ser
 1 5 10 15

Ser Phe Thr Ile Tyr Arg Val Gln Phe Leu Lys Phe Lys Lys Ser Phe
 20 25 30

Thr Tyr Ile Leu Leu Asp
 35

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<211> 147

<212> PRT

<213> Arabidopsis sp.

<400> 151

Gln Arg Lys Phe Glu Leu Arg Tyr Ile Pro Ser Val Ala Thr His Ala
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Ser His His Gln Ser Phe Asp Leu Asn Gln Pro Ala Ala Glu Asp Asp
 20 25 30

Asn Gly Gly Asp Asn Lys Ser Leu Leu Ser Arg Met Gln Asn Pro Leu
 35 40 45

Arg His Phe Ser Ala Ser Ser Asp Tyr Asn Ser Tyr Glu Asp Gln Gly
 50 55 60

Tyr Val Leu Asp Glu Asp Gln Asp Tyr Ala Leu Glu Glu Asp Val Pro
 65 70 75 80

Leu Phe Leu Asp Glu Asp Val Pro Leu Leu Pro Ser Val Lys Leu Pro
 85 90 95

Ile Val Glu Lys Leu Pro Arg Ser Ile Thr Trp Val Phe Thr Lys Arg
 100 105 110

His Val Cys Phe Leu Phe Arg Thr Ser Phe Lys Ile Leu Ile Ile Tyr
 115 120 125

Tyr Ile Val Ile Thr His Ser Ala Tyr Ile His Phe Phe Asn Ile Ala
 130 135 140

Val Ala Ser
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 Trp Leu Lys Val Ile Leu
 1 5

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<400> 153
 Leu Val Arg Asp Lys Ser Ile Ile
 1 5

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 Met Val Arg His
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 <211> 26
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<400> 155
 Ala Val Lys Lys Met Arg Lys Met Lys Lys Lys Met Arg Lys Lys Ser
 1 5 10 15

Arg Lys Lys Asn Ala Asn Phe Leu Lys Met
 20 25

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 <212> PRT
 <213> Arabidopsis sp.

<400> 156
 Thr Asp Leu Tyr Gly
 1 5

<210> 157
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<400> 157
 Phe Leu His Tyr Ile Cys Ser
 1 5

<210> 158
 <211> 25
 <212> PRT
 <213> Arabidopsis sp.

<400> 158
 Leu Leu Ile Cys Ser Pro Tyr Leu Ile Asn Cys Ser Arg Asn Phe Gln
 1 5 10 15

Asp Gly Trp Ala Gly Leu Trp Phe Gly
 20 25

<210> 159
 <211> 32
 <212> PRT
 <213> Arabidopsis sp.

<400> 159
 Ser Gly Arg Ala Ala Cys Ser Arg Gln Val Pro Arg Ser Gly Cys Phe
 1 5 10 15

Gly His Ile Gly Asn Asn Ile Arg Ile Lys Thr Ser Tyr Val Asp Gln
 20 25 30

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<400> 160
 Leu Ser Cys Leu Phe Asn Phe Cys Cys Phe Ser Ser
 1 5 10

<210> 161
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<400> 161
 Ile Phe Lys Ser Asn Val Gly Lys Ile Gln
 1 5 10

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<400> 162
 Trp Asn Cys Trp
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<400> 163
 Phe Asp Ile Gln Asp Asn Asn Tyr Cys Phe Pro Gly Phe Cys
 1 5 10

<210> 164
 <211> 59
 <212> PRT
 <213> Arabidopsis sp.

<400> 164
 Thr Ser Leu Pro Ser Leu His Gly Asn Phe Glu Ser Phe Phe Phe Asn
 1 5 10 15

Leu Ala Thr Lys Lys Gly Asp Asp His Thr Cys Phe Tyr Phe Ile Leu
 20 25 30

Ser Phe Val Leu Gln Ile Phe Asp Cys His Met His Glu Lys Tyr Glu
 35 40 45

Pro Glu Ser Arg Ser Val Ser Ile Lys Phe Ile
 50 55

<210> 165
 <211> 15
 <212> PRT
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<400> 165
 Ile Ile Leu Leu Val Ser Gln Pro Leu Tyr Ile Arg Leu Ser Asp
 1 5 10 15

<210> 166
 <211> 56
 <212> PRT
 <213> Arabidopsis sp.

<400> 166
 Ile Ala Leu Ala Cys Gln Ser Glu Asp Lys Ser Ser Leu Phe Glu Asp
 1 5 10 15

Glu Asp Arg Gln Pro Cys Ser Glu His Cys Tyr Leu Lys Val Ser Ile
 20 25 30

Ser Leu Pro Leu Ser Leu Asn Phe Phe Val Tyr Ser Leu Ile Thr Phe
 35 40 45

Ile Ser Tyr Trp Phe Asn Ile Lys
 50 55

<210> 167
 <211> 50
 <212> PRT
 <213> Arabidopsis sp.

<400> 167
 Val Arg Ser Val Thr Glu Ala Asp His Val Met Asp Asn Asp Asn Ser
 1 5 10 15

Ile Ser Asn Lys Ile Val Val Ser Asp Pro Asn Asn Thr Met Trp Thr
 20 25 30

Pro Val Glu Lys Asp Leu Tyr Leu Lys Gly Ile Glu Ile Phe Gly Arg
 35 40 45

Asn Arg
 50

<210> 168
 <211> 68
 <212> PRT
 <213> Arabidopsis sp.

<400> 168
 Lys Asn Lys Asn Arg Phe Asn Ala Leu Ile Tyr Ile Leu Thr Leu Tyr
 1 5 10 15

Ser Leu Ile Met Leu Val Arg Ser Cys Asp Val Ala Leu Asn Ile Leu
 20 25 30

Arg Gly Leu Lys Thr Cys Leu Glu Ile Tyr Asn Tyr Met Arg Glu Gln
 35 40 45

Asp Gln Cys Thr Met Ser Leu Asp Leu Asn Lys Thr Thr Gln Arg His
 50 55 60

Asn Gln Val His
 65

<210> 169

<211> 23

<212> PRT

<213> Arabidopsis sp.

<400> 169

Lys His Met Lys Phe Pro Ile Cys Val Asp Gly Phe Ile Thr Gly Tyr
 1 5 10 15

Gln Lys Ser Ile Ser Lys Lys
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<210> 170

<211> 22

<212> PRT

<213> Arabidopsis sp.

<400> 170

Val Gly Pro Gln Lys Ile Glu Thr Pro Lys Ile Cys Ser Leu Ser Ala
 1 5 10 15

Cys Phe Lys Glu Asn Asn
 20

<210> 171

<211> 41

<212> PRT

<213> Arabidopsis sp.

<400> 171

Ala Leu His Thr Met His Leu Gln Val Lys Met Trp Thr Ala Met Pro
 1 5 10 15

Leu Phe Asn Ser Arg Lys Leu Leu Arg Glu Ile Leu Arg Val Cys His
 20 25 30

Ser Ile Phe Pro Lys Pro Glu Asp Pro
 35 40

<210> 172
 <211> 108
 <212> PRT
 <213> Arabidopsis sp.

<400> 172
 Val Cys Ile Phe Cys Ser Gly Ala Gln Arg Ile Ala Thr Ile Ala Leu
 1 5 10 15
 Glu Asp Val Ile Val Gln Leu Ala Asn Ala Gln Ile Asp Asn Val Leu
 20 25 30
 Val Leu Leu Leu Ile Val Asn Ala Ile Gln Ile Phe Val Gly Val Val
 35 40 45
 Leu Leu Gly Asn Thr Phe Thr Ser Ile Ser Leu Tyr Thr Asn Ser Ile
 50 55 60
 Ile Lys Val Ile Gln Thr Lys Ser Leu Ile Lys Lys Thr Leu Tyr Ile
 65 70 75 80
 Ala Val Glu Met Ala Leu Leu Val Arg His Gln Cys Lys Ser Asn Ala
 85 90 95
 Arg Thr Cys Asn Ser Ser Phe Lys Pro Ile Lys Arg
 100 105

<210> 173
 <211> 17
 <212> PRT
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<400> 173
 Ser Thr Ser Asn Pro Tyr Arg Lys Phe Lys Thr Asn Tyr Thr Lys Asp
 1 5 10 15
 Ile

<210> 174
 <211> 7
 <212> PRT
 <213> Arabidopsis sp.

<400> 174
 Leu Ser Phe Pro Val Phe Tyr
 1 5

<210> 175
 <211> 39
 <212> PRT
 <213> Arabidopsis sp.

<400> 175

Ile Leu Ile Gly Lys Ser Asp Val His Gly Trp Gly Ala Phe Thr Trp
 1 5 10 15

Val Ser Asn His Val Asn Ile Arg Ile Ser Leu Ile Val Ile Gly Ala
 20 25 30

Phe Ile Thr Leu Phe Phe Phe
 35

<210> 176

<211> 4

<212> PRT

<213> Arabidopsis sp.

<400> 176

Cys Phe Ile Leu
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<210> 177

<211> 6

<212> PRT

<213> Arabidopsis sp.

<400> 177

Thr Ile Lys Tyr Ile Val
 1 5

<210> 178

<211> 53

<212> PRT

<213> Arabidopsis sp.

<400> 178

Tyr Gly Leu Thr Arg Gln Asp Ser Leu Lys Lys Asn Glu Tyr Leu Gly
 1 5 10 15

Glu Tyr Thr Gly Glu Leu Ile Thr His Asp Glu Ala Asn Glu Arg Gly
 20 25 30

Arg Ile Glu Asp Arg Ile Gly Ser Ser Tyr Leu Phe Thr Leu Asn Asp
 35 40 45

Gln Val Thr Ser Glu
 50

<210> 179

<211> 28

<212> PRT

<213> Arabidopsis sp.

<400> 179

Ser Asn Val Leu Ile Ile Arg Gly Leu His Ile Tyr Ser Asn Gln Ser
 1 5 10 15

Asn Ile Tyr Phe Thr Ala Arg Asn Arg Cys Ser Pro
 20 25

<210> 180

<211> 13

<212> PRT

<213> Arabidopsis sp.

<400> 180

Arg Lys Arg Val Gln Ile Ser Gln Ser Leu Ser Lys Thr
 1 5 10

<210> 181

<211> 16

<212> PRT

<213> Arabidopsis sp.

<400> 181

Leu Leu Arg Gln Gly Thr Lys Pro Leu Tyr Phe Ile Leu Asn Lys Tyr
 1 5 10 15

<210> 182

<211> 13

<212> PRT

<213> Arabidopsis sp.

<400> 182

His Tyr Thr Asn Lys Asn Thr Tyr Val Ser Phe Phe Ser
 1 5 10

<210> 183

<211> 24

<212> PRT

<213> Arabidopsis sp.

<400> 183

Ile Val Tyr Gln Leu Tyr Ser Ser Leu Ile Gly Phe His Ile Glu Asp
 1 5 10 15

Ile Pro Arg Asn Ser Asn Ser Phe
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<210> 184

<211> 78

<212> PRT

<213> Arabidopsis sp.

<400> 184

Met Ile Phe Ser Cys Arg Glu Asn Leu Gly Tyr Glu Asn Leu Trp Phe
 1 5 10 15

Arg Val Gln Leu Met Ile Val Arg Gly Asp Gln Arg Ile Gly Leu Phe
 20 25 30

Ala Glu Arg Ala Ile Glu Glu Gly Glu Glu Leu Phe Phe Asp Tyr Cys
 35 40 45

Tyr Gly Pro Glu His Ala Asp Trp Ser Arg Gly Arg Glu Pro Arg Lys
 50 55 60

Thr Gly Ala Ser Lys Arg Ser Lys Glu Ala Arg Pro Ala Arg
 65 70 75

<210> 185

<211> 37

<212> PRT

<213> Arabidopsis sp.

<400> 185

Gly Glu Ala Ala Ile Gln Ala Val Leu Phe Leu Cys Tyr Gly Ile Ser
 1 5 10 15

Ile Asn Asn Val Met Leu Phe Cys Val Thr Lys Pro Lys Leu Lys Phe
 20 25 30

Leu Phe Tyr Leu Phe
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<210> 186

<211> 9

<212> PRT

<213> Arabidopsis sp.

<400> 186

Gly Val Leu Phe Val Ser Tyr Val Ser
 1 5

<210> 187

<211> 10

<212> PRT

<213> Arabidopsis sp.

<400> 187

Leu Ser Lys Phe Ser Phe Cys Ile Ser Ile
 1 5 10

<210> 188

<211> 6

<212> PRT

<213> Arabidopsis sp.

<400> 188

Lys Gln Cys Leu Cys Cys
1 5

<210> 189

<211> 29

<212> PRT

<213> Arabidopsis sp.

<400> 189

Thr Phe Gly Lys Lys Lys Leu Cys Thr Thr Leu His Leu Phe Ser Leu
1 5 10 15

His Leu Ala Lys Asn His Ile Thr Gln Val Cys Gly Thr
20 25

<210> 190

<211> 6

<212> PRT

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<400> 190

Cys Thr Lys Met Ser Lys
1 5

<210> 191

<211> 12

<212> PRT

<213> Arabidopsis sp.

<400> 191

Trp Val Leu Ser Leu Lys Lys Asn Ile Gly Tyr Glu
1 5 10

<210> 192

<211> 19

<212> PRT

<213> Arabidopsis sp.

<400> 192

Ser Ile Val Arg Ile Leu Gly Ile Ser Ser Phe Gly Phe Lys Thr Phe
1 5 10 15

Phe Glu Ile

<210> 193

<211> 24

<212> PRT

<213> Arabidopsis sp.

<400> 193

Phe Cys Ser Leu Leu Ser Asn Thr Trp Lys Asn His Gln Gln Ser Gly
 1 5 10 15

Cys Ser Leu Arg Lys Val Leu Leu
 20

<210> 194

<211> 10

<212> PRT

<213> Arabidopsis sp.

<400> 194

Cys Lys Tyr Val Phe Asp Ala Ser Asn Ile
 1 5 10

<210> 195

<211> 4

<212> PRT

<213> Arabidopsis sp.

<400> 195

Tyr Leu Asn Lys
 1

<210> 196

<211> 13

<212> PRT

<213> Arabidopsis sp.

<400> 196

Lys Gln Lys Lys Arg Lys Lys Leu Phe Lys Ile Arg Lys
 1 5 10

<210> 197

<211> 24

<212> PRT

<213> Arabidopsis sp.

<400> 197

Leu Phe Ser Lys Asn Leu Asn Tyr Lys Leu Lys Cys Leu Glu Ser Arg
 1 5 10 15

Thr Thr Ile Ala Lys Tyr Lys Cys
 20

<210> 198

<211> 5

<212> PRT

<213> Arabidopsis sp.

<400> 198

Ile Tyr Met Lys Met

1

5

<210> 199

<211> 13

<212> PRT

<213> Arabidopsis sp.

<400> 199

Lys Thr Cys Trp Ile Cys Gly Ile Val Asn Asp His Gly

1

5

10

<210> 200

<211> 4

<212> PRT

<213> Arabidopsis sp.

<400> 200

Met Ala Gly Ser

1

<210> 201

<211> 4

<212> PRT

<213> Arabidopsis sp.

<400> 201

Ile His Tyr Phe

1

<210> 202

<211> 48

<212> PRT

<213> Arabidopsis sp.

<400> 202

Lys Ser Asn Phe Phe Ile Ser Ile Ile Cys Phe Lys Glu Lys Lys Asn

1

5

10

15

Thr Arg Arg Leu Ser Ile Cys Arg Leu Cys Ser Ser Val Asn Leu Tyr

20

25

30

Phe Lys Thr Gly Gly Leu Phe Ile Thr Ile Ser Leu Asp Met Phe Leu

35

40

45

<210> 203

<211> 24

<212> PRT

<213> Arabidopsis sp.

<400> 203

Cys Arg Pro Lys Asn Arg Glu Ile Arg Lys Gly Thr Phe Val Val Ile
 1 5 10 15

Val Thr Lys Gln Lys Ser Leu Tyr
 20

<210> 204

<211> 11

<212> PRT

<213> Arabidopsis sp.

<400> 204

Ile Ile Arg Lys Asp Glu Lys Ile Lys Pro Leu
 1 5 10

<210> 205

<211> 12

<212> PRT

<213> Arabidopsis sp.

<400> 205

Leu Asp Asp His Arg Arg Gly Cys Gln Leu Gln Ser
 1 5 10

<210> 206

<211> 34

<212> PRT

<213> Arabidopsis sp.

<400> 206

Cys Phe Tyr Ile Asp Leu Ser Tyr Ile Leu Cys Ser Phe Thr Phe Lys
 1 5 10 15

Lys Gln Tyr His Pro Ile Phe Phe Leu Leu Leu Ser Val Ser Ile Phe
 20 25 30

Ala Asn

<210> 207

<211> 21

<212> PRT

<213> Arabidopsis sp.

<400> 207

Arg Asn Thr Lys Glu His Lys Lys Gln Leu Val Pro Asp Ser Thr Ile
 1 5 10 15

Ser Asn Asp Leu His
 20

<210> 208
 <211> 106
 <212> PRT
 <213> Arabidopsis sp.

<400> 208
 Pro Pro Pro Pro Ser Ile Phe Pro Leu Ser Phe Thr Ser Leu Ser Leu
 1 5 10 15
 Tyr Leu Leu Asn Ser Gly His Arg Leu Arg Arg Phe Leu Cys Tyr Ser
 20 25 30
 Pro Gly Arg Cys Arg Ser Leu Ile His Asp Leu Val Ser His His Arg
 35 40 45
 Leu His Phe Asn Pro Gln Ser Leu Arg Lys Thr Arg Met Leu Cys Ser
 50 55 60
 Pro Phe Pro Ser Leu His Leu Leu Asp Arg Ser Leu His Arg Pro Ser
 65 70 75 80
 Leu Cys Leu Trp Asp Gln Lys Asn His Glu His Asp His Val Tyr Lys
 85 90 95
 Ser Arg Gln Lys Leu Val Ser Cys Asp Thr
 100 105

<210> 209
 <211> 5
 <212> PRT
 <213> Arabidopsis sp.

<400> 209
 Lys Met Asp Val Gly
 1 5

<210> 210
 <211> 15
 <212> PRT
 <213> Arabidopsis sp.

<400> 210
 Gly Phe Val Leu Phe Gly Ala Thr Arg Ser Asp Ala Asp Val Val
 1 5 10 15

<210> 211
 <211> 32
 <212> PRT
 <213> Arabidopsis sp.

<400> 211
 Gln His Tyr Ile Trp Gly Leu Arg Gly Gly Glu Val Val Arg Glu Ser
 1 5 10 15

Arg Cys Gly Ser Asp Leu Trp Tyr Asn Val Val Val Glu Ala Lys Arg
 20 25 30

<210> 212
 <211> 11
 <212> PRT
 <213> Arabidopsis sp.

<400> 212
 Gly Arg Lys Ser Cys Gly Gly Gly Tyr Gly Gly
 1 5 10

<210> 213
 <211> 42
 <212> PRT
 <213> Arabidopsis sp.

<400> 213
 Pro Pro His Ser Phe Gly Gly Ser Gln Phe Cys Glu Leu Val Tyr Val
 1 5 10 15

Leu His Leu Cys Trp Asn Trp Phe Asn Glu Asp Leu Gln Arg Val Phe
 20 25 30

Gly Phe Cys Glu Tyr Val Asp Phe Glu His
 35 40

<210> 214
 <211> 6
 <212> PRT
 <213> Arabidopsis sp.

<400> 214
 Glu Val Glu Lys Arg Leu
 1 5

<210> 215
 <211> 4
 <212> PRT
 <213> Arabidopsis sp.

<400> 215
 Ile Met Cys Phe
 1

<210> 216
 <211> 27
 <212> PRT
 <213> Arabidopsis sp.

<400> 216

Ser Cys Val Arg Tyr Leu Thr Tyr Tyr Thr His Leu Leu Asn Val Phe
 1 5 10 15

Glu Ile Phe Leu Phe Leu Phe Ser Ile Ser Cys
 20 25

<210> 217

<211> 25

<212> PRT

<213> Arabidopsis sp.

<400> 217

Glu Phe Asn Pro Tyr Ile Cys His Lys Asn Ser Arg Ile Ser Glu Ser
 1 5 10 15

Lys Asn Ile Leu Ser Lys Asn Asn His
 20 25

<210> 218

<211> 16

<212> PRT

<213> Arabidopsis sp.

<400> 218

Leu Tyr Phe Tyr Asn Thr Pro Phe Leu Arg Lys Thr Trp Arg Phe Asn
 1 5 10 15

<210> 219

<211> 12

<212> PRT

<213> Arabidopsis sp.

<400> 219

Lys Ile Ser Asp Leu Arg Arg Ser Phe Lys Cys Val
 1 5 10

<210> 220

<211> 6

<212> PRT

<213> Arabidopsis sp.

<400> 220

Leu Asn Leu Arg Ile Glu
 1 5

<210> 221

<211> 25

<212> PRT

<213> Arabidopsis sp.

<400> 221

Tyr Ser His Ile Tyr Ile Phe Glu Asp Leu Asn Ser Phe Cys Phe Phe
 1 5 10 15

His Ile Cys Ile Ile Tyr Lys Leu Lys
 20 25

<210> 222

<211> 9

<212> PRT

<213> Arabidopsis sp.

<400> 222

Ile Leu Ile Tyr Ile Met Thr Leu Ile
 1 5

<210> 223

<211> 10

<212> PRT

<213> Arabidopsis sp.

<400> 223

Val Leu Pro Asp Thr Pro Lys Cys Ile Tyr
 1 5 10

<210> 224

<211> 9

<212> PRT

<213> Arabidopsis sp.

<400> 224

Ser Ile Asn Ile Phe Ser Leu Val Tyr
 1 5

<210> 225

<211> 14

<212> PRT

<213> Arabidopsis sp.

<400> 225

Thr Lys Leu Ser His Lys Tyr Glu Leu Thr Pro Phe Phe Leu
 1 5 10

<210> 226

<211> 13

<212> PRT

<213> Arabidopsis sp.

<400> 226

Ala Val Lys Arg Gln Ala Asn Pro Thr Ser Thr Tyr Ile
 1 5 10

<210> 227
 <211> 30
 <212> PRT
 <213> Arabidopsis sp.

<400> 227
 Tyr Tyr Ile Leu Lys Ile Lys Ile Phe Leu Asn Phe Pro Tyr Tyr Phe
 1 5 10 15
 Pro Phe Lys Ala Ser Lys Ser Lys Tyr Val Ser Ser Arg Leu
 20 25 30

<210> 228
 <211> 15
 <212> PRT
 <213> Arabidopsis sp.

<400> 228
 Phe Ser Leu Ile Arg Phe Ser Thr Lys Lys Asn Gln Leu Leu Ile
 1 5 10 15

<210> 229
 <211> 39
 <212> PRT
 <213> Arabidopsis sp.

<400> 229
 Lys Thr Leu Cys Ile Ile Leu Phe Thr Asn Ile Arg Glu Asp Glu Lys
 1 5 10 15
 Lys Arg Arg Gly Glu Trp Leu Met Glu Lys Val Ser Phe Thr Pro Asn
 20 25 30
 Ile Tyr Glu Leu Thr Arg Leu
 35

<210> 230
 <211> 9
 <212> PRT
 <213> Arabidopsis sp.

<400> 230
 Asn Pro Tyr Ile Leu Ile Val Cys Leu
 1 5

<210> 231
 <211> 4
 <212> PRT
 <213> Arabidopsis sp.

<400> 231
 Ile Asn Asn Ile
 1

<210> 232
 <211> 19
 <212> PRT
 <213> Arabidopsis sp.

<400> 232
 Ser Ile Met Leu Phe Val Pro Cys Met Ile His Lys Thr Phe Ile Phe
 1 5 10 15
 Glu Phe Val

<210> 233
 <211> 37
 <212> PRT
 <213> Arabidopsis sp.

<400> 233
 Glu Asn His Glu Asp Asp Gly Glu Gly Leu Pro Pro Glu Leu Asn Gln
 1 5 10 15
 Ile Lys Glu Gln Ile Glu Lys Glu Arg Phe Leu His Ile Lys Val Arg
 20 25 30
 Asp Ile Trp Leu Leu
 35

<210> 234
 <211> 9
 <212> PRT
 <213> Arabidopsis sp.

<400> 234
 Tyr Phe Ile Leu Phe Cys Met Phe Phe
 1 5

<210> 235
 <211> 10
 <212> PRT
 <213> Arabidopsis sp.

<400> 235
 Lys Leu Arg Arg Gly Glu Asp Leu Ile Ser
 1 5 10

<210> 236
 <211> 11
 <212> PRT
 <213> Arabidopsis sp.

<400> 236
 Leu Tyr Asp Ser Lys Glu Met Leu Arg Tyr Ile
 1 5 10

<210> 237
 <211> 4
 <212> PRT
 <213> Arabidopsis sp.

<400> 237
 Thr Val Ile His
 1

<210> 238
 <211> 13
 <212> PRT
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<400> 238
 Ser Leu Lys Leu Lys Arg Glu Ile Ser Lys Leu Leu Asn
 1 5 10

<210> 239
 <211> 26
 <212> PRT
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<400> 239
 Lys Gln Asn Leu Glu Asn Ala Ser Glu Ser Ile Thr Thr Ser Arg Ser
 1 5 10 15

Val Gly Tyr Pro Lys Leu Arg Ile Lys Lys
 20 25

<210> 240
 <211> 4
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<400> 240
 Leu Ile Tyr Leu
 1

<210> 241
 <211> 5
 <212> PRT
 <213> Arabidopsis sp.

<400> 241
 Tyr Lys Ala Gly Thr
 1 5

<210> 242
 <211> 29
 <212> PRT
 <213> Arabidopsis sp.

<400> 242

Ile Phe Leu Phe Leu Ser Asn Lys Ile Val Ile Gln Phe Val Phe Phe
 1 5 10 15

Ser Thr Lys Lys Leu Asn Arg Ser Lys Leu Phe Phe Phe
 20 25

<210> 243

<211> 34

<212> PRT

<213> Arabidopsis sp.

<400> 243

His Ser Ala Lys Lys Ala Lys Ile Asp Ala Tyr Ile Lys Lys Ser Lys
 1 5 10 15

Ser Lys Leu Leu Tyr Ser Ser Ile Leu Val Ser Leu Tyr Ile Glu Ser
 20 25 30

Ser Phe

<210> 244

<211> 18

<212> PRT

<213> Arabidopsis sp.

<400> 244

Asn Leu Lys Asn His Leu Pro Ile Tyr Tyr Leu Ile Asn Arg Glu Asn
 1 5 10 15

Ser Ser

<210> 245

<211> 17

<212> PRT

<213> Arabidopsis sp.

<400> 245

Asp Thr Phe Gln Val Trp Leu Leu Met Leu His Thr Ile Asn Arg Leu
 1 5 10 15

Thr

<210> 246

<211> 100

<212> PRT

<213> Arabidopsis sp.

<400> 246

Thr Ser Pro Leu Gln Arg Met Ile Met Glu Glu Thr Thr Asn His Phe
 1 5 10 15

Cys Arg Glu Cys Lys Thr His Phe Val Ile Ser Val Pro His Leu Ile
 20 25 30

Ile Ile Leu Thr Lys Ile Lys Val Met Phe Leu Met Arg Ile Lys Ile
 35 40 45

Met Leu Leu Lys Lys Met Tyr His Tyr Phe Leu Met Lys Met Tyr His
 50 55 60

Tyr Tyr Gln Val Ser Ser Phe Gln Leu Leu Arg Ser Tyr His Asp Pro
 65 70 75 80

Leu His Gly Ser Ser Pro Lys Gly Met Cys Val Phe Cys Phe Val Leu
 85 90 95

Val Ser Lys Tyr
 100

<210> 247

<211> 4

<212> PRT

<213> Arabidopsis sp.

<400> 247

Ser Tyr Thr Ile

1

<210> 248

<211> 13

<212> PRT

<213> Arabidopsis sp.

<400> 248

Ser Leu Ile Val His Ile Tyr Ile Ser Leu Thr Leu Gln

1

5

10

<210> 249

<211> 4

<212> PRT

<213> Arabidopsis sp.

<400> 249

Pro Ala Asp Gly

1

<210> 250

<211> 4

<212> PRT

<213> Arabidopsis sp.

<400> 250

Phe Cys Asp Trp

1

<210> 251
 <211> 8
 <212> PRT
 <213> Arabidopsis sp.

<400> 251
 Glu Thr Asn Leu Leu Phe Glu Trp
 1 5

<210> 252
 <211> 6
 <212> PRT
 <213> Arabidopsis sp.

<400> 252
 Gly Thr Arg Ile Glu Gln
 1 5

<210> 253
 <211> 11
 <212> PRT
 <213> Arabidopsis sp.

<400> 253
 Gly Arg Asn Gln Glu Arg Lys Met Arg Ile Phe
 1 5 10

<210> 254
 <211> 18
 <212> PRT
 <213> Arabidopsis sp.

<400> 254
 Arg Cys Arg Pro Ile Tyr Met Val Ser Phe Cys Ile Thr Tyr Val Leu
 1 5 10 15

Asp Tyr

<210> 255
 <211> 5
 <212> PRT
 <213> Arabidopsis sp.

<400> 255
 Phe Val Val His Ile
 1 5

<210> 256
 <211> 41
 <212> PRT
 <213> Arabidopsis sp.

<400> 256

Thr Ala Gln Glu Ile Phe Arg Thr Val Gly Gln Asp Tyr Gly Leu Asp
 1 5 10 15

Asp Leu Val Val Arg Arg Ala Leu Ala Lys Tyr Leu Glu Val Asp Val
 20 25 30

Ser Asp Ile Leu Val Thr Ile Phe Glu
 35 40

<210> 257

<211> 30

<212> PRT

<213> Arabidopsis sp.

<400> 257

Lys Leu His Thr Ser Ile Asn Asn Phe Pro Ala Tyr Leu Ile Phe Val
 1 5 10 15

Val Phe Arg Arg Glu Lys Cys Phe Lys Phe Ser Asn Leu Met
 20 25 30

<210> 258

<211> 51

<212> PRT

<213> Arabidopsis sp.

<400> 258

Glu Arg Tyr Asn Glu Leu Lys Leu Lys Asn Asp Gly Thr Ala Gly Glu
 1 5 10 15

Ala Ser Asp Leu Thr Ser Lys Thr Ile Thr Thr Ala Phe Gln Asp Phe
 20 25 30

Ala Asp Arg Arg His Cys Arg Arg Cys Met Val Thr Leu Asn Leu Ser
 35 40 45

Phe Leu Ile
 50

<210> 259

<211> 36

<212> PRT

<213> Arabidopsis sp.

<400> 259

Pro Gln Lys Arg Glu Met Ile Ile His Val Phe Ile Leu Phe Tyr His
 1 5 10 15

Leu Phe Tyr Arg Tyr Ser Ile Val Ile Cys Met Arg Ser Met Ser Pro
 20 25 30

Ser Leu Asp Pro
 35

<210> 260
 <211> 9
 <212> PRT
 <213> Arabidopsis sp.

<400> 260
 Ala Leu Asn Ser Phe Lys Leu Phe Cys
 1 5

<210> 261
 <211> 6
 <212> PRT
 <213> Arabidopsis sp.

<400> 261
 Phe His Asn Pro Tyr Ile
 1 5

<210> 262
 <211> 50
 <212> PRT
 <213> Arabidopsis sp.

<400> 262
 Val Ile Asn Leu Ile Arg Leu Leu Trp Leu Val Arg Ala Lys Thr Asn
 1 5 10 15
 Leu Val Cys Leu Arg Met Lys Ile Asp Asn His Ala Val Ser Ile Val
 20 25 30
 Thr Ser Arg Ser Leu Ser Leu Ser Leu Ser Ile Phe Leu Ser
 35 40 45
 Ile Pro
 50

<210> 263
 <211> 12
 <212> PRT
 <213> Arabidopsis sp.

<400> 263
 Leu Arg Leu Leu Val Thr Gly Leu Ile Leu Asn Arg
 1 5 10

<210> 264
 <211> 5
 <212> PRT
 <213> Arabidopsis sp.

<400> 264
 Gln Lys Leu Ile Met
 1 5

<210> 265
 <211> 23
 <212> PRT
 <213> Arabidopsis sp.

<400> 265
 Trp Ile Met Ile Thr Leu Tyr Gln Thr Arg Leu Trp Ser Gln Ile Gln
 1 5 10 15
 Thr Thr Leu Cys Gly Arg Leu
 20

<210> 266
 <211> 5
 <212> PRT
 <213> Arabidopsis sp.

<400> 266
 Arg Arg Ile Phe Thr
 1 5

<210> 267
 <211> 19
 <212> PRT
 <213> Arabidopsis sp.

<400> 267
 Lys Glu Leu Arg Tyr Leu Gly Glu Thr Gly Lys Lys Ile Lys Ile Asp
 1 5 10 15
 Leu Met His

<210> 268
 <211> 8
 <212> PRT
 <213> Arabidopsis sp.

<400> 268
 Tyr Ile Tyr Leu His Cys Ile Pro
 1 5

<210> 269
 <211> 10
 <212> PRT
 <213> Arabidopsis sp.

<400> 269
 Leu Cys Trp Phe Ala Val Val Met Leu His
 1 5 10

<210> 270
 <211> 9
 <212> PRT
 <213> Arabidopsis sp.

<400> 270
 Thr Tyr Phe Gly Gly Leu Arg Arg Ala
 1 5

<210> 271
 <211> 15
 <212> PRT
 <213> Arabidopsis sp.

<400> 271
 Arg Phe Thr Ile Thr Cys Ala Asn Lys Ile Asn Val Leu Cys His
 1 5 10 15

<210> 272
 <211> 28
 <212> PRT
 <213> Arabidopsis sp.

<400> 272
 Thr Leu Thr Lys Leu His Lys Asp Thr Ile Arg Tyr Thr Asn Leu Cys
 1 5 10 15

Arg Asn Tyr Ser His Asp Met Tyr Val Lys Asn Thr
 20 25

<210> 273
 <211> 95
 <212> PRT
 <213> Arabidopsis sp.

<400> 273
 Ser Phe Leu Tyr Val Leu Met Val Leu Ser Gln Val Thr Lys Lys Val
 1 5 10 15

Ser Arg Lys Ser Ser Arg Ser Val Arg Lys Lys Ser Arg Leu Arg Lys
 20 25 30

Tyr Ala Arg Tyr Pro Pro Ala Leu Lys Lys Thr Thr Ser Gly Glu Ala
 35 40 45

Lys Phe Tyr Lys His Tyr Thr Pro Cys Thr Cys Lys Ser Lys Cys Gly
 50 55 60

Gln Gln Cys Pro Cys Leu Thr His Glu Asn Cys Cys Glu Lys Tyr Cys
 65 70 75 80

Gly Tyr Val Ile Gln Phe Phe Leu Ser Arg Lys Ile His Glu Ile
 85 90 95

<210> 274
 <211> 22
 <212> PRT
 <213> Arabidopsis sp.

<400> 274
 Phe Glu His Glu Phe Val Phe Phe Val Gln Val Leu Lys Gly Leu Gln
 1 5 10 15
 Gln Ser Leu Trp Arg Met
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<210> 275
 <211> 16
 <212> PRT
 <213> Arabidopsis sp.

<400> 275
 Leu Cys Asn Trp Pro Met His Lys Ser Thr Met Ser Leu Phe Cys Cys
 1 5 10 15

<210> 276
 <211> 11
 <212> PRT
 <213> Arabidopsis sp.

<400> 276
 Met Arg Ser Arg Ser Leu Ser Glu Leu Ser Ser
 1 5 10

<210> 277
 <211> 13
 <212> PRT
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<400> 277
 Val Thr Leu Ser Leu Gln Tyr Leu Phe Ile Gln Ile Leu
 1 5 10

<210> 278
 <211> 6
 <212> PRT
 <213> Arabidopsis sp.

<400> 278
 Phe Lys Pro Lys Val Leu
 1 5

<210> 279
 <211> 5
 <212> PRT
 <213> Arabidopsis sp.

<400> 279

Lys Lys Leu Tyr Ile
1 5

<210> 280

<211> 7

<212> PRT

<213> Arabidopsis sp.

<400> 280

Leu Trp Arg Trp His Ser Trp
1 5

<210> 281

<211> 17

<212> PRT

<213> Arabidopsis sp.

<400> 281

Asp Thr Ser Ala Asn Pro Met Gln Glu His Ala Ile Pro Pro Ser Asn
1 5 10 15

Gln

<210> 282

<211> 45

<212> PRT

<213> Arabidopsis sp.

<400> 282

Lys Gly Asn Gln Arg Gln Ile Arg Thr Glu Asn Leu Lys Leu Ile Ile
1 5 10 15Arg Lys Thr Phe Asn Tyr His Phe Pro Tyr Phe Thr Arg Phe Ser Leu
20 25 30Glu Ser Leu Met Phe Met Asp Gly Val His Leu His Gly
35 40 45

<210> 283

<211> 5

<212> PRT

<213> Arabidopsis sp.

<400> 283

Leu Leu Val His Ser
1 5

<210> 284

<211> 21

<212> PRT

<213> Arabidopsis sp.

<400> 284

His Phe Phe Phe Phe Asn Asn Val Leu Tyr Phe Arg Pro Leu Asn Ile
 1 5 10 15

Leu Cys Asp Met Val
 20

<210> 285

<211> 18

<212> PRT

<213> Arabidopsis sp.

<400> 285

Pro Val Arg Thr Leu Leu Lys Arg Met Ser Ile Ser Glu Asn Ile Leu
 1 5 10 15

Glu Asn

<210> 286

<211> 11

<212> PRT

<213> Arabidopsis sp.

<400> 286

Ser Leu Met Met Lys Leu Met Ser Val Gly Glu
 1 5 10

<210> 287

<211> 11

<212> PRT

<213> Arabidopsis sp.

<400> 287

Lys Ile Gly Leu Val Leu Pro Thr Ser Leu Pro
 1 5 10

<210> 288

<211> 9

<212> PRT

<213> Arabidopsis sp.

<400> 288

Leu Gln Asn Asn Phe Glu Val Thr Phe
 1 5

<210> 289

<211> 51

<212> PRT

<213> Arabidopsis sp.

<400> 289

Ser Phe Ala Gly Tyr Thr Ser Ile Arg Ile Lys Val Thr Phe Ile Leu
 1 5 10 15

Gln Leu Glu Ile Asp Ala Arg Arg Lys Gly Asn Glu Phe Lys Phe Leu
 20 25 30

Asn His Ser Ala Arg Pro Asn Cys Tyr Ala Lys Val Leu Ser Arg Tyr
 35 40 45

Thr Leu Ser
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<210> 290

<211> 26

<212> PRT

<213> Arabidopsis sp.

<400> 290

Thr Asn Thr Asn Ile Ile Gln Thr Lys Ile Leu Met Leu Val Ser Leu
 1 5 10 15

Val Lys Ser Cys Ile Asn Phe Thr Arg Arg
 20 25

<210> 291

<211> 16

<212> PRT

<213> Arabidopsis sp.

<400> 291

Leu Val Phe Ile Leu Lys Ile Phe Gln Glu Thr Gln Thr His Phe Lys
 1 5 10 15

<210> 292

<211> 7

<212> PRT

<213> Arabidopsis sp.

<400> 292

Phe Phe Leu Val Glu Lys Ile
 1 5

<210> 293

<211> 10

<212> PRT

<213> Arabidopsis sp.

<400> 293

Val Thr Lys Ile Tyr Gly Phe Val Cys Ser
 1 5 10

<210> 294
 <211> 57
 <212> PRT
 <213> Arabidopsis sp.

<400> 294
 Glu Glu Ile Arg Gly Leu Val Tyr Leu Arg Arg Glu Gln Ser Lys Lys
 1 5 10 15
 Val Arg Ser Phe Ser Ser Thr Thr Ala Met Asp Gln Asn Met Arg Ile
 20 25 30
 Gly Arg Val Val Glu Asn Leu Glu Arg Leu Val Leu Leu Lys Gly Leu
 35 40 45
 Arg Lys Pro Val Gln Leu Val Ser Phe
 50 55

<210> 295
 <211> 21
 <212> PRT
 <213> Arabidopsis sp.

<400> 295
 Ser Glu Glu Lys Gln Gln Phe Lys Gln Ser Phe Phe Tyr Val Met Val
 1 5 10 15
 Tyr Gln Leu Ile Met
 20

<210> 296
 <211> 66
 <212> PRT
 <213> Arabidopsis sp.

<400> 296
 Cys Tyr Phe Val Leu Leu Asn Gln Asn Leu Ser Phe Cys Phe Ile Cys
 1 5 10 15
 Phe Arg Val Phe Cys Leu Tyr His Met Cys Leu Asn Phe Gln Ser Phe
 20 25 30
 Leu Phe Val Phe Gln Phe Lys Asn Asn Val Tyr Val Val Ser Leu His
 35 40 45
 Arg Pro Leu Glu Lys Lys Ser Phe Ala Gln Leu Tyr Ile Tyr Leu Val
 50 55 60
 Phe Ile
 65

<210> 297
 <211> 4
 <212> PRT
 <213> Arabidopsis sp.

<400> 297
 Arg Lys Ile Thr
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<210> 298
 <211> 18
 <212> PRT
 <213> Arabidopsis sp.

<400> 298
 His Lys Ser Val Val Arg Asn Val Gln Lys Cys Gln Asn Asn Gly Phe
 1 5 10 15

Tyr His

<210> 299
 <211> 9
 <212> PRT
 <213> Arabidopsis sp.

<400> 299
 Lys Lys Ile Leu Val Met Asn Glu Val
 1 5

<210> 300
 <211> 18
 <212> PRT
 <213> Arabidopsis sp.

<400> 300
 Val Leu Ala Arg Leu Val Leu Lys Arg Phe Ser Arg Phe Asn Phe Val
 1 5 10 15

Val Tyr

<210> 301
 <211> 32
 <212> PRT
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<400> 301
 Val Ile His Gly Arg Ile Ile Asn Lys Val Ala Val Ala Tyr Glu Arg
 1 5 10 15

Phe Tyr Phe Asn Val Asn Met Tyr Leu Met His Leu Thr Phe Ser Ile
 20 25 30

<210> 302
 <211> 22
 <212> PRT
 <213> Arabidopsis sp.

<400> 302
 Thr Asn Lys Asn Lys Lys Lys Glu Lys Ser Ser Leu Lys Ser Glu Ser
 1 5 10 15
 Asn Tyr Phe Gln Lys Ile
 20

<210> 303
 <211> 21
 <212> PRT
 <213> Arabidopsis sp.

<400> 303
 Ile Ile Asn Leu Asn Val Trp Asn Arg Glu Arg Leu Leu Leu Asn Ile
 1 5 10 15
 Asn Ala Lys Tyr Thr
 20

<210> 304
 <211> 20
 <212> PRT
 <213> Arabidopsis sp.

<400> 304
 Arg Cys Glu Lys His Val Gly Phe Val Glu Ser Leu Met Thr Thr Val
 1 5 10 15
 Lys Trp Arg Asp
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<210> 305
 <211> 23
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<220>
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 Cla-73

<400> 305
 ggccggacatc aaacctactt agc

23

<210> 306
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 <212> DNA
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<220>
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 <400> 306
 tgtaacatta aggcctttcc tttt 24

 <210> 307
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
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 Nir-C-2-S-N

 <400> 307
 cggtcatcaa gtgagttatg aag 23

 <210> 308
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 <400> 308
 ggtccaatcg gcaatgagt 19

 <210> 309
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 cerlins10596n

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 <210> 310
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 <220>
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 La-4Cla-S-S

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<210> 311
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
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 cerlns10265n

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<210> 312
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 fie3cds5'.seq

<400> 312
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40

<210> 313
 <211> 24
 <212> DNA
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<220>
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 cerlns10129n

<400> 313
 tctggagagc agaaggaaga gtcg

24

<210> 314
 <211> 22
 <212> DNA
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<220>
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 cerlns10030n

<400> 314
 cgagtcattg acgtcaacag tg

22

<210> 315
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer
cerlns9922n

<400> 315

ctcgcaaattg tgcagagtct tgtg

24

<210> 316

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer
cerln1570

<400> 316

aggatcatgc tatgaagttc

20

<210> 317

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer
cerlns98f9511n

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20

<210> 318

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

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cerlns98f9311s

<400> 318

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21

<210> 319

<211> 20

<212> DNA

<213> Artificial Sequence

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cerls2099

<400> 319
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<210> 320
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<212> DNA
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<220>
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E-4-N-N

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25

<210> 321
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cerlns8795n

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19

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20

<210> 323
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<212> DNA
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cerlns98f8483s

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<210> 324
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40